JS 10/22/21
RJA 2/18/22

SAT Report for Case # P-18-0379

General

[redacted]

Report Status:	Complete	**Status Date:**	10/19/2018		
CRSS Date:	10/18/2018	**SAT Date:**	10/19/2018	**SAT Chair:**	Rebecca Daiss
Consolidated PMN?	N				
Consolidated Set:					
Submitter:	[redacted]				
CAS Number:	[redacted]				
Ecotox	Same As:				
Related Cases:	[redacted]				
Health Related Cases:	Same As [redacted]				
Chemical Name:	[redacted]				
Use:	[redacted]				
Trade name:	[redacted]				
PV Max (kg/yr):	[redacted]				
Ecotox Assessor:	Gallagher, Jeffrey	**Fate Assessor:**	Lee, WenHsiung	**Health Assessor:**	Benson, Amy

Physical Chemical Information

Molecular Weight:	[redacted]	**Physical State - Neat:**	[redacted] (est.)		
Percent 500:	[redacted]	**Percent 1000:**	[redacted]		
Melting Point (Measured):		**Melting Point (est):**		**MPD (EPI):**	
Vapor Pressure:		**Vapor Pressure (est):**	<0.000001	**VP (EPI):**	
Water Solubility:		**Water Solubility (EST):**	<0.000001	**Water Solubility (EPI):**	
Log Kow:				**Log Kow (EPI):**	
Log P:		**Log P Comment:**			

SAT Concern

Ecotox Rating (1):	1	**Ecotox Rating Comment (1):**	
Ecotox Rating (2):		**Ecotox Rating Comment (2):**	
Health Rating (1):	1-2	**Health Rating Comment (1):**	
Health Rating (2):		**Health Rating Comment (2):**	

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
3	1	1	

Exposure Based Review (Health)?	
Exposure Based Review (Ecotox)?	N
SAT Keywords:	IRR- E S LUNG SENS

Fate Assessment Summary:	P-18-0379 FATE: MW = [redacted] with [redacted] < 500 and [redacted] < 1000 Solid S = Negl. VP < 1.0E-6 torr at 25 °C (E) BP > 400 °C (E) H < 1.00E-8 (E) POTW removal (%) = 90 via sorption Time for complete ultimate aerobic biodeg > mo Sorption to soils/sediments = v.strong PBT Potential: P3B1 FATE: Migration to ground water = negl
Removal in WWT/POTW (Overall):	90

Condition	Rating Values w/ Rating Description	Comment
WWT/POTW Sorption:	3	
WWT/POTW Stripping:	4	
Biodegradation Removal:	4	
Biodegradation Destruction:		
Aerobic Biodeg Ult:	4	
Aerobic Biodeg Prim:		

Condition	Rating Values w/ Rating Description	Comment
Anaerobic Biodeg Ult:	4	
Anaerobic Biodeg Prim:		
Hydrolysis (t1/2 at pH 7,25C) A:		
Hydrolysis (t1/2 at pH 7,25C) B:		
Sorption to Soils/Sediments:	1	
Migration to Ground Water:	1	
Photolysis A, Direct:		
Photolysis B, Indirect:		
Atmospheric Ox A, OH:		
Atmospheric Ox B, O3:		

Health Assessment

Health Summary: Absorption of the intact PMN (representative structure MW [redacted]) is nil all routes (pchem). Uncertain absorption of the LMW [redacted] < 500 [redacted] < 1000) which are not identified. There is concern for cationic binding to the lungs as well as irritation to the eyes and skin due to the multiple amine groups. There is concern for sensitization due to the cashew nut oil component. There may be health concerns for potential low molecular weight components (e.g., [redacted]). Also, the polymer could be made differently with a higher percentage of LMW fractions.

Routes of Exposure: Dermal , Oral, Inhalation

Test Data Submitted

Test Data Submitted:

Ecotox Assessment

Test organism	Test Type	Test Endpoint	Predicted	Measured	Comments
Fish	96-h	LC50	*		
Daphnid	48-h	LC50	*		
Green Algae	96-h	EC50	*		
Fish	-	Chronic Value	*		
Daphnid	-	Chronic Value	*		
Green Algae	-	Chronic Value	*		

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Acquatic:				An acute COC was not calculated, because the acute toxicity values show no effects at saturation.
Chronic Acquatic:				A chronic COC was not calculated, because the acute toxicity values show no effects at saturation.

Ecotox Route of Exposure?	No releases to water

Factors	Values	Comments
SARs:	Polycationic Polymers	
SAR Class:	Polymers-cationic-insoluble-[redacted] A-N	
TSCA NCC Category?	Polycationic Polymers	

Recommended Testing

Ecotox
Value Comments

Predictions are based on the negligible water solubility of P-18-0379 (insoluble polycationic polymer; MW [redacted] with [redacted] 500 and [redacted] < 1000); MW [redacted] with [redacted] <500 and [redacted] < 1000; [redacted] (est.)

with an unknown MP (P); S = Negligible (P); effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO3; and TOC <2.0 mg/L.

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Factors Comments

Environmental Hazard: Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using predictions based on the negligible water solubility of P-18-0379 (insoluble polycationic polymer; MW [redacted] with [redacted] <500 and [redacted] < 1000). Acute and chronic toxicity values estimated no effects at saturation for fish, aquatic invertebrates and algae. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. An acute and chronic COC was not calculated, because the toxicity values show no effects at saturation.

Environmental Risk: